



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,415	01/22/2004	Todd E. Bofinger	08935-301001 / M-5064	1429
26161	7590	11/13/2007	EXAMINER	
FISH & RICHARDSON PC			CHU, HELEN OK	
P.O. BOX 1022			ART UNIT	
MINNEAPOLIS, MN 55440-1022			PAPER NUMBER	
			1795	
			MAIL DATE	
			DELIVERY MODE	
			11/13/2007	
			PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/761,415

Applicant(s)

BOFINGER ET AL.

Examiner

Helen O. Chu

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/10/07, 9/11/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-36 is/are pending in the application.
- 4a) Of the above claim(s) 27-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicants' amendments have been received on May 10, 2007. Claims 1-16 have been cancelled. Claims 22-36 are new.
2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 10, 2007 has been entered.

Election/Restrictions

4. Applicant's election of claims 22-26 drawn to a method of providing a lithiated gamma-manganese oxide having about 0.22 mole of lithium per mole of manganese dioxide in the reply filed on September 11, 2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 112

5. The rejections under 35 U.S.C 112, first paragraph, on claims 1-16 are withdrawn because the Applicants have cancelled the claims.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 22-25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The recitation "lithium source at a lithiation temperature of between 40°C and 120°C to provide a lithiated gamma-manganese dioxide having about 0.22 mole of lithium per mole of manganese dioxide" is unsupported. Page 6, lines 20-25 of the specification states "in addition, under certain conditions, elevating the lithiated temperature can be advantageously increase the lithium ion content of the material. For example a lithium level of about $\text{Li}_{0.22}\text{MnO}_2$ heat treated for 6 hrs at 200°C in air" as originally presented. The temperature limitations does not include 200°C

8. Claim 26 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The recitation "a lithiated manganese dioxide including about 0.22 mole of lithium per mole of manganese dioxide and having an X-ray diffraction pattern of gamma-manganese dioxide" is unsupported. Page 2, lines 5-10 of the specification states "a lithiated manganese dioxide having an X-ray diffraction pattern substantially similar to the X-ray diffraction pattern of the manganese dioxide prior to lithiation...the lithiation temperature can be between 40-100°C" as originally presented. The temperature limitations does not include 200°C and therefore would not include $\text{Li}_{0.22}\text{MnO}_2$ as noted in the above 35 U.S.C. 1112, second paragraph rejection.

9. The rejections under 35 U.S.C 112, second paragraph ,on claims 1-16 are withdrawn because the Applicants have cancelled the claims.

10. The rejections under 35 U.S.C 112, second paragraph ,on claims 1-8 are withdrawn because the Applicants have cancelled the claims.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitation of "a lithiated manganese dioxide including

about 0.22 mole of lithium per mole of manganese dioxide and having an X-ray diffraction pattern of gamma-manganese dioxide" is unclear to the Examiner. How can any lithiated manganese dioxide have an X-ray pattern of gamma-manganese dioxide unless the lithiated manganese dioxide is a gamma-manganese dioxide. For example a ramsdellite or a pyrolusite manganese dioxide would not produce an X-ray pattern of gamma-manganese dioxide.

13. Claims depending from claims rejected under 35 U.S.C 112, first and second paragraph are also rejected for the same reason.

14. To the extent the claims are understood in view of 35 U.S.C 112 rejections above, note the following prior art rejections.

Claim Rejections - 35 USC § 102/103

15. The rejection under 35 U.S.C 102 (b) as anticipated by or, in the alternative under 35 U.S.C. 103(a) as obvious over Itchev et al. on claims 1-16 are withdrawn because Applicants cancelled the claims.

16. The rejection under 35 U.S.C 102 (b) as anticipated by or, in the alternative under 35 U.S.C. 103(a) as obvious over Christian et al. on claims 1-5, 7-13, 15 and 16 are withdrawn because Applicants cancelled the claims.

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 22-26 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Li et al. (US Patent 5,599,435).

19. Regarding claims 22-26, the Li et al. reference discloses a method of preparing an electrochemical cell with a cathode comprising a second insertion compound of Li_xMnO_2 (Column 3, Lines 59-62) where x is $y < x \leq$ about 1. The second insertion compound is derived from a first insertion compound, Li_yMnO_2 where y is between 0.2-4.5 and $\gamma\text{-MnO}_2$ structure and utilizing an electrolyte of lithium hydroxide dissolved in water. The isolation of the second insertion compound in a solvent and drying the compound after (Column 3, Lines 40-62). The manganese oxide powder was employed as the first insertion compound on a working electrode and was sandwiched with a carbon counter electrode and placed in a beaker between 16°C to 96°C . The working electrode was disassembled and then dried between 80°C and 110°C under vacuum (Column 12, Lines 25-42). The resulting product was then used to fabricate another working electrode and the x-ray diffraction of the resulting product is shown to retain the characteristic diffraction pattern of $\gamma\text{-MnO}_2$ type material (Column 15, Lines 10-15)

Claim Rejections - 35 USC § 103

20. The rejection under 35 U.S.C. 103(a) as obvious over Christian et al. on claims 6 and 14 are withdrawn because Applicants cancelled the claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen O. Chu whose telephone number is (571) 272-5162. The examiner can normally be reached on Monday-Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HOC


TRACY DOVE
PRIMARY EXAMINER

11/07